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10/693,750	10/24/2003	Shankar Pal	MSFT-2160/304750.1	2447

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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)
CIRA CENTRE, 12TH FLOOR
2929 ARCH STREET
PHILADELPHIA, PA 19104-2891

EXAMINER

CHEN, TE Y

ART UNIT	PAPER NUMBER
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2161

MAIL DATE	DELIVERY MODE
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06/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/693,750

Applicant(s)

PAL ET AL.

Examiner

Susan Y. Chen

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-19,21,23-27 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) 10-18 and 31-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5-9, 19, 21, 23-24, 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 13, 2007 has been entered.

This office action is in response to the amendment filed on April 13, 2007.

Claims 1, 3, 5-19, 21 and 23-27, 31-33, are pending for examination, claims 1, and 19 have been amended, claims 2, 4, 20, 22 and 28-30 have been canceled, claims 10-18 and 31-33 have been withdrawn from prosecution. Applicant is reminded to cancel all non-elected claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2161

Claims 25-27, are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for “shredding XML values in the primary table (e.g., Abstract, line 6), does not reasonably provide enablement for “shredding XML values from the binary large object”. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope with these claims.

As to claim 25, since the instant specification merely support “shredding XML values in the primary table (e.g., Abstract, line 6), it does not allow the “shredding XML values from the binary large object”, because the nature of a binary large object only contains binary values which will not have any XML values that can be shredded. Thereby, the claimed subject matter is not only contradict to the instant specification but also the nature of a binary large object, as such, the claimed invention does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope with these claims.

As to claims 26-27, these claims have the same defects as their base claim 25, hence, are rejected for the same reason.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, 5-9, 19, 21 and 23-24, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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As to claims 1 and 19, it is unclear from where the claimed "XML values" are shredded.

As to the claims 3, 5-9, 21, and 23-24, have the same defects as their base claims, hence, are rejected for the same reason.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-9, 19, 21 and 23-27, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,584,459 issued to Chang et al. (hereinafter referred as Chang) in view of U.S. Patent Publication No. 2005/005,5334 issued to Krishnamurthy (hereinafter referred as Krishnamurthy).

Claim 1:

Chang discloses the claimed method of retrieving XML data from a database, the method [e.g., Abstract, Col. 1, the XML extender database system of Fig. 1; the use of "range query" technique at col. 2, lines 64-66 & col. 3, lines 47-60; Fig(s). 2 & 4 and associated texts] comprising:

creating a primary table structure to hold XML data as a large object in an XML column [e.g., the steps: S2-S4 at Fig. 4 and associated texts; col. 8, Creation of the

Abstract Data Type DB2XML section, col. 12 - col. 13, Creation of an XML table section];

creating a primary XML index relating to the primary table structure, where the primary XML index includes a node table [e.g., steps: S3-S7, Fig. 4 and associated texts; the path node structure index of Fig. 9, the B+ tree index structures of Fig. 10 and associated texts, Enablement of an XML Index section starting at col. 14 at seq.];

populating the primary table and the primary XML index, and wherein the XML index preserves document order and structures [e.g., steps: the inserting & storing processing at S8-S9, Fig. 4 and associated texts; the Insertion of Data into the XML column section starting at col. 20, lines 56 – col. 21, line 15.]; and

querying on the primary table which then uses the XML index by directing the query to a location identified in the XML index node table to satisfy the query, whereby to retrieve the XML data [e.g., steps: S10-S11, Fig. 4 and associated texts; Querying of an XML Table section starting at col. 21 at seq.];

retaining the primary table and primary XML index so that subsequent queries execute faster than an initial query [e.g., the use of range query processing via the creation of B+ tree at col. 19, lines 18-67].

Chang did not expressly disclose that the XML index is populated by shredding XML values is stored as binary large object.

However, Krishnamurthy discloses the claimed feature [e.g., Abstract, Sections: 0043-0046, Fig. 3 and associated texts].

Chang and Krishnamurthy are both in the same field of endeavor to optimize the processing of XML large object data for retrieving data in the hierarchical node tables via XML data transformation using Binary tree indexing technique [e.g., Chang: col. 19, lines 50-67, Krishnamurthy: Fig. 2 and associated texts], therefore, it would have been obvious for an ordinary skilled person in the art at the time the invention was made to apply the well-known binary large object as taught by Krishnamurthy into Chang's invention. Because by doing so, the combined system would be upgraded with method for not only be able to process the Character Based Large Object (CLOB) but also the multi-media Binary Large Object (BLOB).

Claim 3:

In addition to the method of claim 1, the combined system of Chang and Krishnamurthy further discloses that the node table comprises a B⁺ tree structure [e.g., Chang: col. 15, line 64-66].

Claim 5:

In addition to the method of claim 1, the combined system of Chang and Krishnamurthy further disclose that the creating a primary table structure comprises creating a structure for XML data and non-XML data [e.g., Chang: the create adt DB2XML (...) statements at col. 9, lines 1-10].

Claim 6:

In addition to the method of claim 5, the combined system of Chang and Krishnamurthy further discloses that the querying retrieves XML and non-XML data [e.g., Chang: col. 9, lines 11- col. 10, line 18].

Claim 7:

In addition to the method of claim 1, the combined system of Chang and Krishnamurthy further discloses that the method is performed by a database engine [e.g., Chang: the unit 100, Fig. 1 and associated texts].

Claim 8:

In addition to the method of claim 1, the combined system of Chang and Krishnamurthy further discloses the following:

creating a secondary XML index relating to the primary table structure and the primary XML index [e.g., Chang: the use of create index ... statements at col. 20, lines 1- 32, Fig(s) 5-6];

populating the secondary XML index [e.g., Chang: col. 19, line 50 – col. 21, line 15] ; and

querying on the primary table wherein the query utilizes the primary XML index and the secondary XML index to retrieve the XML data [e.g., Chang: col. 20, lines 33- 52].

Claim 9:

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In addition to the method of claim 1, the combined system of Chang and Krishnamurthy further discloses that the querying further comprises utilizing multiple path expressions in the retrieval of the XML data [e.g., Chang: col. 15, lines 45 - col. 16, line 6].

Claim 19:

This claim incorporates substantially similar subject matter as claim 1 in form of a machine-readable medium, hence is rejected along the same rational.

Claim 20:

This claim incorporates substantially similar subject matter as claim 2 in form of a machine-readable medium, hence is rejected along the same rational.

Claim 21:

This claim incorporates substantially similar subject matter as claim 3 in form of a machine-readable medium, hence is rejected along the same rational.

Claim 23:

This claim incorporates substantially similar subject matter as claim 5 in form of a machine-readable medium, hence is rejected along the same rational.

Claim 24:

This claim incorporates substantially similar subject matter as claim 6 in form of a machine-readable medium, hence is rejected along the same rational.

Claim 25:

Chang discloses the claimed system for performing queries on XML data, comprising:

an input device for receiving a query [e.g., Chang: the GUI tool, Fig. 2, the unit 706, Fig. 7];

a processor for executing the query [e.g., Chang: the Search Engine 180, Fig. 2, the unit 702, Fig. 7];

at least one organization of XML data [e.g., Chang: the XViewer, XSearcher, XML Parser, etc. Fig. 2, the units: 704, 708, Fig. 7];

a software structure providing an XML index of the XML data stored in a primary table as a large object wherein nodes of the XML index are organized as a B+ tree, and wherein the input XML index is populated by shredding (or parsing) XML values as large object such that the XML index preserves document order and structures [e.g., Chang: col. 7, lines 26 – col. 8, line 42, col. 15, lines 45-66, the novel tag counting system at col. 15, lines 50-67, col. 16, line 56 – col. 17, line 21, Insertion of Data into the XML column section starting at col. 20 at seq., Fig(s) 2, 4, 6, 7, 8, 10 and associated texts]; and

an application program which allows the processor to utilize the XML index as a tool for performing the query against the primary table wherein the query is executed

and results of the query are returned in response to the query [e.g., Chang: the unit 200, Fig. 2 and associated texts].

Chang did not expressly disclose that the XML index is populated by shredding XML values is stored as binary large object.

However, Krishnamurthy discloses the claimed feature [e.g., Abstract, Sections: 0043-0046, Fig. 3 and associated texts].

Chang and Krishnamurthy are both in the same field of endeavor to optimize the processing of XML large object data for retrieving data in the hierarchical node tables via XML data transformation using Binary tree indexing technique [e.g., Chang: col. 19, lines 50-67, Krishnamurthy: Fig. 2 and associated texts], therefore, it would have been obvious for an ordinary skilled person in the art at the time the invention was made to apply the well-known binary large object as taught by Krishnamurthy into Chang's invention. Because by doing so, the combined system would be upgraded with method for not only be able to process the Character Based Large Object (CLOB) but also the multi-media Binary Large Object (BLOB).

Claim 26:

In addition to the method of claim 25, the combined system of Chang and Krishnamurthy further discloses that the application program is database management system software and the processor executes the application program [Chang: col. 7, lines 27-52].

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Claim 27:

In addition to the method of claim 25, the combined system of Chang and Krishnamurthy further discloses that the results of the query are provided for examination [e.g., Chang: the units: 122, 126, Fig. 2, the unit 718, Fig. 7].

Response to Arguments

Applicant's arguments with respect to newly amended claim features have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

To expedite the process of re-examination, the examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g., 35 U.S.C. 1112) set forth by the Examiner prior to the office action, that applicant should provide and link to the most specific page and line numbers of the disclosure where best support is found (see 35 U.S.C. 132).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Person et al. (U.S. Pub. No. 2004/013,8942) which discloses a node-level modification during execution of an enterprise planning model.

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mofiz Apu can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Susan Y Chen
Examiner
Art Unit 2161



June 13, 2007